

ABSTRACT

A spectrometer using a diffraction grating includes a light-incident portion including an incident-side optical waveguide emitting a light
5 beam that includes a plurality of wavelength components and that approximates a Gaussian beam, and a collimating lens that is arranged on an emission side of the incident-side optical waveguide and that converts the light beam approximating a Gaussian beam that is emitted from the incident-side optical waveguide into a substantially collimated
10 light beam; a diffraction grating having grooves on its surface, on which the light beam that has been converted into the substantially collimated light beam by the collimating lens is incident, the diffraction grating spectrally separating the light beam by emitting light beams whose emission direction depends on their wavelength; and a light-emitting
15 portion having a plurality of focusing lenses that respectively condense the light beams that have been spectrally separated by the diffraction grating.